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Flight Safety

September 2000

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Overdoing It

Ooh, Look, a Waterspout!

Cracked Canopy Over Kosovo

2001-23

approach

The Naval Safety Center's Aviation Magazine
September 2000 Volume 45 No. 9

RAdm. Skip Dirren, Jr. **Commander, Naval Safety Center**
Bill Mooberry **Deputy Commander**
John G. Mahoney **Head, Media Department**
Lt. Thomas Hamrick **Head, Graphics Division**

Approach Staff (757) 444-3520 (DSN 564)
Derek Nelson **Editor**
dnelson@safetycenter.navy.mil Ext. 7244
Allan Amen **Graphics, Design & Layout**
aamen@safetycenter.navy.mil Ext. 7248
Ginger Rives Distribution (Magazines and Posters)
vrives@safetycenter.navy.mil Ext. 7256
Letters and Articles Commander, Naval Safety Center
Attn: Approach, Code 712
375 A St., Norfolk, VA 23511-4399
Publications FAX (757) 444-6791

Col. Dave Kerrick, USMC **Aviation Safety Programs**
dkerrick@safetycenter.navy.mil Ext. 7225
Cdr. John Anderson **Aircraft Operations Division**
janderson@safetycenter.navy.mil Ext. 7203
Cdr. Mike Francis **Aircraft Mishap Investigation Division**
mfrancis@safetycenter.navy.mil Ext. 7236
Capt. James Fraser **Aeromedical Division**
jfraser@safetycenter.navy.mil Ext. 7228
Homepage address www.safetycenter.navy.mil

Postmaster Send address changes to *Approach*, Code 74,
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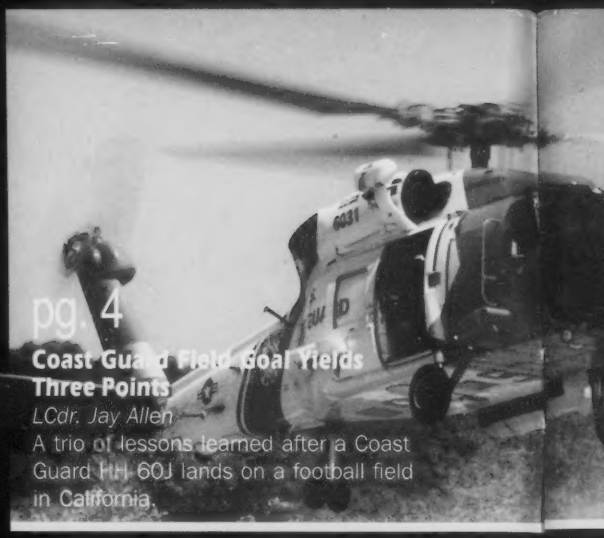

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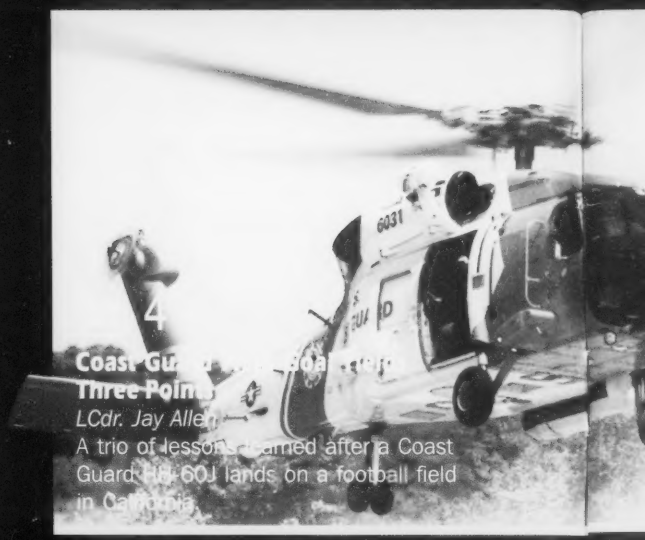

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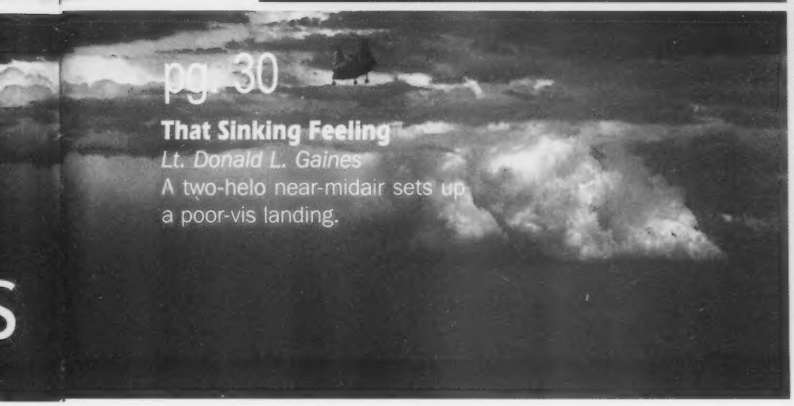

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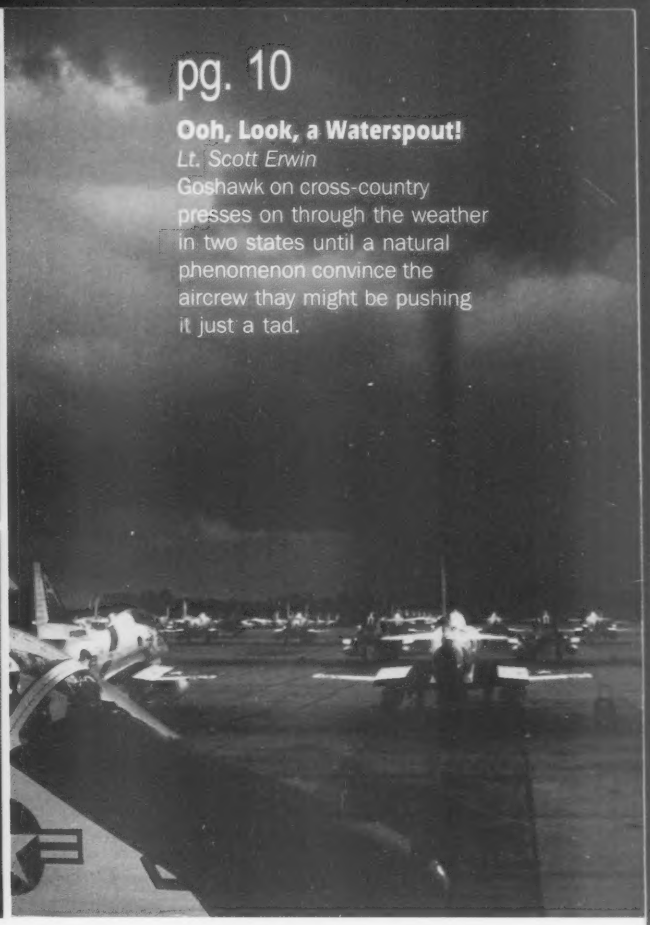

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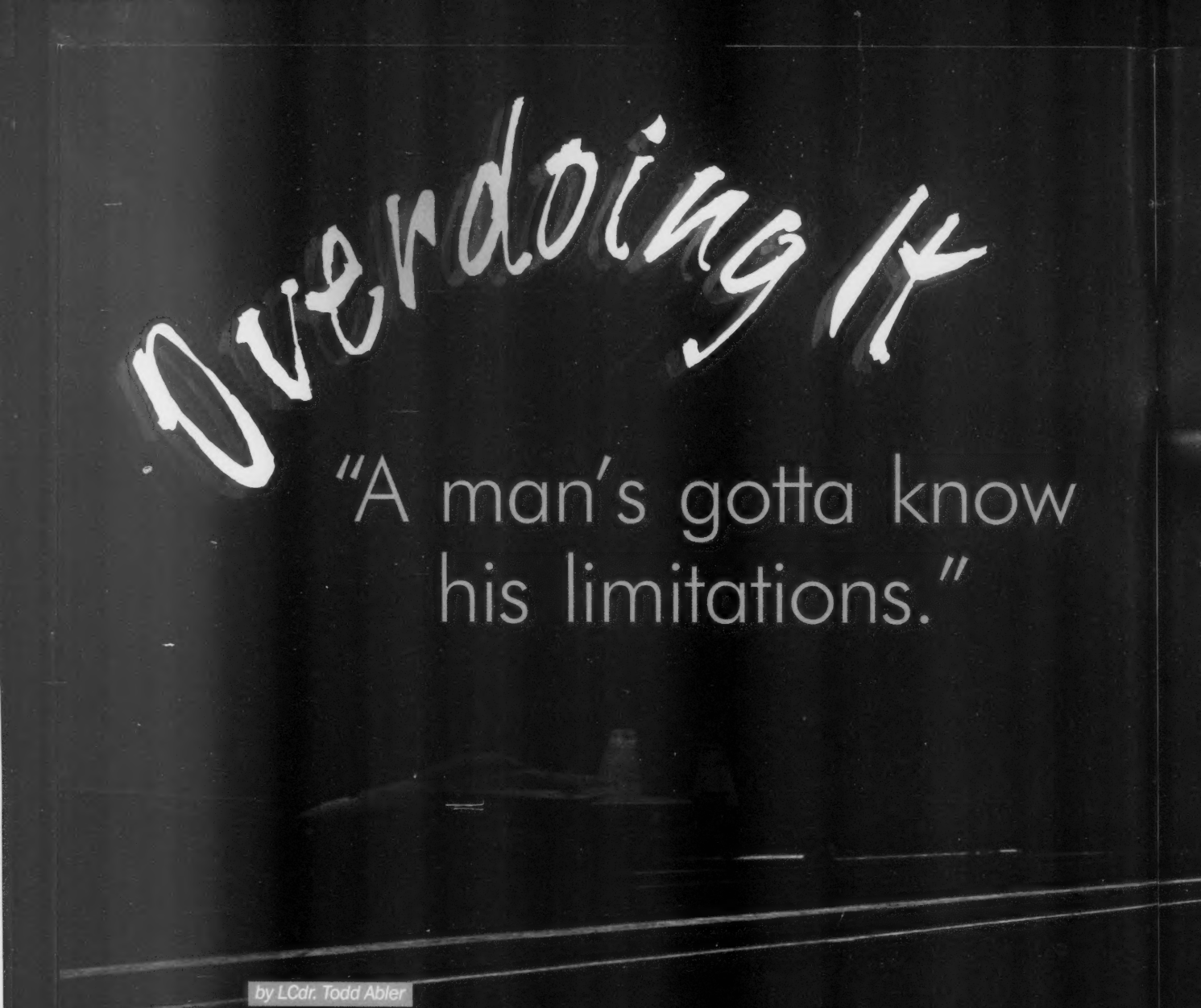
Overdoing It

"A man's gotta know his limitations."



by LCdr. Todd Abler

It was that time in the turn-around cycle, about four months since the return from the last deployment. Our squadron was going to take advantage of a carrier-qualification opportunity aboard an unfamiliar carrier to keep our pilots current. The plan looked picture perfect: we had four days in which to get three pilots, four day-traps and two night-traps. With two aircraft available, we'd be able to accomplish this in two days and nights, leaving the other two days open for running the deck. Best of all, we'd be operating from the beach, allowing for some evenings off in town during the last half of the detachment.

Things started well. We had a thorough, uneventful period of field carrier landing practice before detaching. We headed to our detachment site with two up aircraft and great weather for the transit. After arriving, we encountered a few administrative snafus, but we quickly surmounted them, and we were set to start carrier ops the next day.

The first day of quals went well. The weather was beautiful, clear with good visibility and calm seas. The night was moonless, clear and calm. Another pilot and I easily completed our day and night requirements. However, our rep aboard told us that the ship intended to work us each of the

THE PAPER AND INK
ORIGINAL PUBLICATION
QUALITY OF THE MICRO

Photo by Todd P. Cichonowicz,
Photo modification by Allan Amen

nights we were there. This struck me as a little odd—no one in their right mind wants to bag night traps. Nonetheless, we relayed the message back to our XO on the beach.

On the second day, I went out for another day and another night period per the new plan. Our CO arrived at the beach later that day and was planning on working the third night. No one was going to work the fourth and final night.

On the third day, I went out with the CO for a day period but was able to enjoy an evening on the beach as he worked the night shift. After he got back that evening, he announced that I'd have to go out the fourth night. I could expect a single night trap and then a shot to the beach. This was, we thought, a reasonable compromise between the risk of unnecessary night traps and the benefit of helping the carrier CO train his deck crew.

The weather on the fourth day started out beautiful. We bagged six day traps and shut down on deck for dinner before the night fun. An 800-foot marine layer started to build in the afternoon, but it didn't appear threatening. As we ate dinner, we discussed how we were well on our way to centurion status, having logged 32 traps during the last four days.

The brief made it clear that the ship wanted us to work the deck that night for as long as we could. We agreed amongst ourselves to stay for two traps and then head to the beach. When we started flying again, the marine layer was a substantial overcast at 750 feet with no definite horizon underneath. With no ACLS or ILS needles, and hearing, "Descend to six hundred feet, ASR minimums," I broke out at about one mile high and lined up well right. Nevertheless, the first pass was solid. The second pass was also decent, made a

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BLICATION MAY AFFECT THE
THE MICROFORM EDITION.

Coast Guard Field Goal Yields 3 Points

by LCdr. Jay Allen, USCG

Following tours in Cape Cod and Kodiak, I figured a tour in San Diego was going to be a snap. I was eagerly looking forward to much better weather and the challenge of teaching nuggets. That task, I figured, would be far less demanding than the radar navigation, sea states, and low visibility I was used to. The air station was transitioning from being an HU-25 Falcon and HH-65 Dolphin unit to an HH-60J Jayhawk unit, so several seasoned pilots were ordered in to have the unit up and running as soon as possible.

During the next four years, the glamour of flying in southern California began to wear off. At about the same time, we started to see our first young jaygees straight from Pensacola and Mobile, which is the Coast Guard's Aviation Training Center, home for HU-25, HH-65 and HH-60J transition courses.

One gorgeous, sunny, Friday morning, the mission had a twist: shoot up the coast to Camp Pendleton and land in a football field just south of the Oceanside VORTAC. We were to brief and work with some Marines on "casting out" of an HH-60. The Marines had plenty of practice out of the back of H-46s, but we were a target of opportunity. We welcomed the break from the pattern at Imperial Beach and flying offshore law enforcement.

One high recon of the field and we had it scoped. The Marines were waiting by their trucks on the south side of the field; the goal posts on the east and west ends of the field were no problem, and there were bleachers to the north. On our low recon to a landing, our flight mechanic gave us tail clearance as we came in. A small dust cloud worked its way forward as we touched down at midfield in a no-hover landing. Ah, just like days of whiteouts in snow up north, except I wasn't wearing wool socks or thinking about pulling out my Air Force winter cap once I took off my helmet.

During the brief, I told the Marines that we'd be doing it more Coast Guard-ish than they were used to. Instead of maintaining 10 knots forward speed at 10 feet, we would come to brief hovers at each deployment and wait for their thumbs-up before moving forward for the next deployment.

One maximum performance takeoff and we went to the scene. The poor guys were getting kicked around swimming out through the surf, but they were soon in position. We hoisted groups of five into the cabin, then they made their freefall

returns to the water just outside the surfline. Most of these gents hadn't been hoisted before and were coming up on the bare hook since they were all wearing approved harnesses with D-rings. We could hear the "hoots" while they were still outside the cabin door before the flight mechanic brought them in. Four groups, no problems, lots of fun, and we were done with the first half of the mission. It was on to Imperial Beach for some day bounce work. "You have the controls," I said, as we climbed to transit altitude for heading down the beach.

"Let's go back and debrief," the flight mechanic offered. I was skeptical about the benefits of this plan, but I suspected it was just to hear how much fun they had. The hop was going quickly, and another shutdown and startup weren't going to break our schedule. I radioed the POC on the ground and told him we wanted to come back in and conduct a quick hotwash.

"No problem, we'll be assembled in short order."

"Can I make the landing?" my new copilot asked.

"Sure," I confidently replied. I knew that, unless the syllabus had changed significantly, each transitioned pilot into the HH-60J had, at least, landed once on a baseball diamond at Mobile. With trees around it, no less. Surely a football field wasn't a big deal.

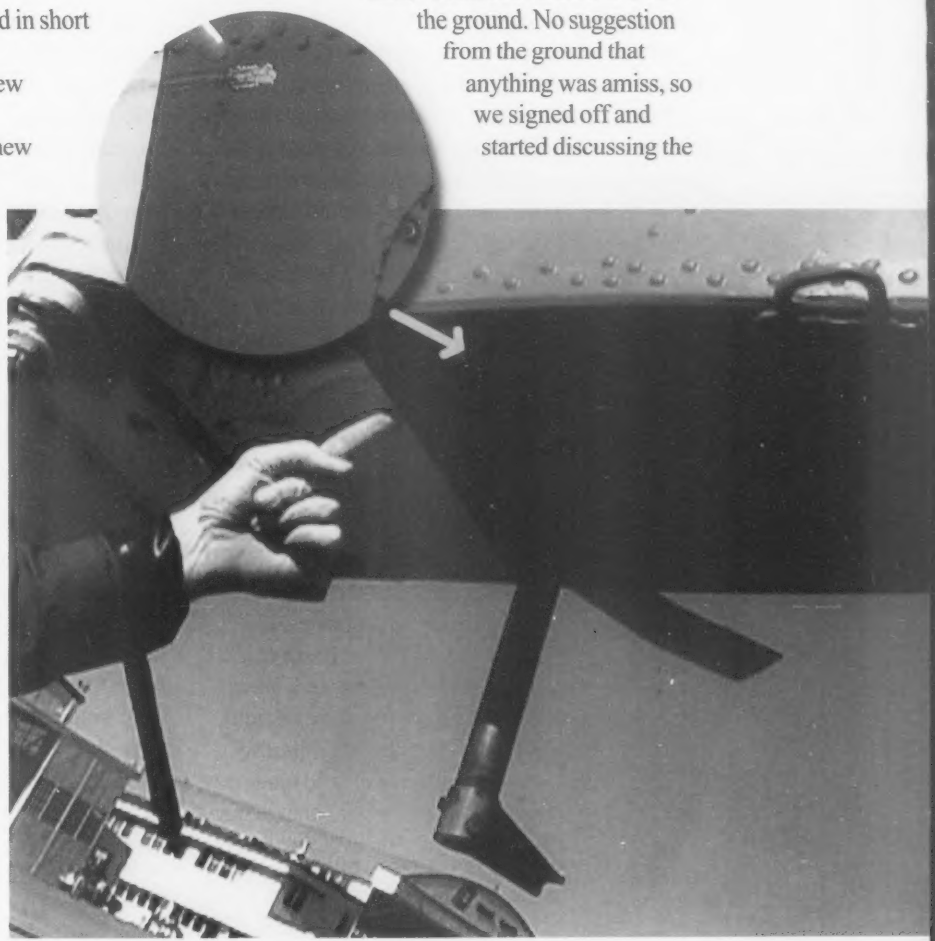
The first approach was a bit hot and shallow, and I called for the go-around at 150 feet. No big deal—this was exactly why I'd come to San Diego in the first place, and I was finally getting my chance. We discussed on downwind to just hit the numbers for a good steep approach, establish a good sight picture and bleed off airspeed at a nice rate, then bring in power early to get the descent rate under control.

The second approach was much better. Nice sight angle, maybe a little short on the intended point of landing, but we were flying the aircraft, not just going along for a ride.

"How's our clearance on the goalpost?" I asked. There was a pregnant pause, and my anxiety level took a major leap to FL100. "Hold your descent, hold your descent, hold your descent!"

The aircraft continued to descend! This couldn't be happening. I was on the controls pulling 132 percent for one second, until I felt like we were on the proverbial HH-60 elevator ride to the top. I then managed to lower the collective to within continuous limits as we hurtled to 1,000 feet amid a dust cloud. In the pull, I heard a "thump" and concluded that the tailwheel must have gone to full extension and hit a lower stop as a result of the ascent rate. I queried the crew, and no one else admitted to hearing the sound. The flight mechanic was sure we'd cleared the western goalpost by 10 feet.

"Sorry for the confusion. We'll RTB at this time," I radioed to the POC on the ground. No suggestion from the ground that anything was amiss, so we signed off and started discussing the



overtorque. It occurred to me that I hadn't read about too many HH-60 overtorques in *Approach* magazine.

We headed down the coast discussing our alternatives. Palomar and Oceanside airports were within five miles, Camp Pendleton was about 15. We raised maintenance control on FM and told them about our condition. A quick search through the maintenance pubs and we were informed that no maintenance action is required, just an entry on the 4377. See—you can't overtorque an HH-60!

Well, training being the better part of valor, I said that we'd pull up our bootstraps and head down to Imperial Beach to give the young man some time to "get back in the air," as they said in "Top Gun." A good hour in the pattern and we were back on deck. We looked into the maintenance manuals for ourselves and were off to the galley, no message required, just the entry in the aircraft record.

I was out on patrol the next day. I leisurely discussed the previous day's events with another pilot (who was new to the air station) and the crew to generate some lessons learned. Two hours later, we were back on deck and our rescue swimmer, a most conscientious man, asked, "Sir, did anyone actually check the tail?"

"You know, I'm not sure. Let's be sure to take a look after we shut down." Well, what do you know: yellow paint and a missing rivet head just aft of the folding hinge. Unbelievable. I mean, it was less of a scrape than you'd get by having a shopping cart run into your car at Home Depot, but it was there.

Back into the manuals, deeper this time. The deformation was within limits, and the forward structural member of the pylon wasn't touched, so it was just a new non-structural rivet and an 8-inch paint job; $10 in parts, $64 in labor and a mishap message, my first as PIC in more than 11 years flying. A wake-up call for me, and, since we had executed a helicopter version of a field goal, three points for the crew and community.

First, evaluate the comfort level and readiness of a crew faced with flight maneuvers that demand a heightened state of hazard awareness and crew resource management. I ass-u-me-d that this pilot would have no problem landing on a football field based on my expectations of a newly transitioned pilot. It never occurred to me to discuss such basics as landing long in the zone. We had just done it about 45 minutes earlier, so surely we could do it again. I was slow asking the crew to provide clearance information up front, a delay that proved crucial. It was entirely possible the goalpost upright could have punctured the pylon or skewered the tail stinger and pivoted us over on our nose. Lesson learned: No maneuver is too basic not to brief in detail.

Second, I was the only one who heard a thump. Ignoring the possibility that we'd hit something, I searched my databank for possibilities: the tailwheel strut, items falling in the cabin? I now know the strut is fully extended when in flight—it can't extend any farther. But my suggestion of this explanation, coupled with the fact that no one else heard it or countered my conclusion, allowed this aircraft to be flown for more than three hours before discovery of the mishap.

Third, in this case, we were able to consult with maintenance personnel immediately and get a read on what damage our overtorque might have caused. What about the good old PEL and a landline? We had three airports within five minutes to which we could have flown and shut down for further analysis. I'm not sure we would have discovered the scrape during a walk-around. It wasn't discovered on the following post-flight, but only upon a detailed inspection of the tail the next day. Although not an emergency, what other situations may call for the more prudent action of landing and discussing? In this case, a maintenance control "release" allowed me to relax. Aircraft commanders have the authority to make decisions on the spot, but it also helps to take advantage of the available chain of command. Lesson learned: Err to the conservative, and you'll live longer.

As a result of this incident, I am finally assuming the responsibility for which I came to San Diego in the first place. The unit is about half seasoned and half nugget now, and I can honestly say I'm enjoying my one-year extension of challenging flying in this tropical clime.

LCdr. Allen flies HH-60Js at USCGAS San Diego.

Hitchhiker FOD

by Capt. John Dugene

"Now all hands muster on the bow for a FOD walkdown." These familiar words echo over the carrier's 1MC as we begin another day of routine flight operations. As a carrier aviator and now the Air Boss, I had participated in hundreds of FOD walkdowns and heard almost as many briefs on types of FOD, ranging from hard to liquid to micro to migratory.

Leaving the Mini Boss in the tower, I went down in my yellow jersey, joining 200 Sailors walking the line. Heading aft, we were picking up the remaining ball-bearing shot from recent work on the non-skid work. Focusing on finding these tiny metal nuisances, I scrunched down near JBD No. 1 to begin the tedious work of clearing another area.

Much to my surprise, there on the deck was a commander's silver collar device. It was the FOD find-of-the-day, although it bothered me that all-hands walkdowns increased the risk of careless shipmates bringing FOD up from throughout the carrier. Careless commanders, no less.

Immediately after the walkdown, the Mini and I called all the commanders on the ship to see if they were missing a collar device. We had prepared a stern lecture on flight-deck cleanliness. No, everyone had their devices; we dropped the subject for the day.

Four days later, as I was preparing my khakis for pulling into port, I was embarrassed and shocked to find I was short one silver oak leaf. It took a few minutes for the FOD lesson to sink in. The circuitous route the FOD had taken seemed unbelievable. But there was no other explanation.

While I had been straightening my stateroom, one collar device had fallen onto the deck, and I'd stepped on it. The pin of the device embedded in the bottom of a shoe. Now in the shoe, the device went across an athwartships passageway, up to the O-10 level, circulated around Pri-Fly for 10 minutes, went back down the ladder, on to the flight deck (still undetected), up to the bow, through part of the FOD walkdown and continued aft to a spot near JBD No. 1.

When I bent down to gather more BBs, the device had fallen off right in front of me. That was tenacious, migratory FOD.

I now tell this story to anyone who will or has to listen. Migratory FOD is insidious. It begins anywhere on the ship or aircraft and works its way up to the flight deck, waiting to be picked up, blown over the side, or sucked into a jet intake. The bags of FOD after each walkdown prove that many of the pens, paper clips, staples, snuff cans, and rivet shanks began their journey elsewhere on the ship.

As a result of this incident, we took even greater precautions. A key issue is the cleanliness of the hangar bay, sponson and door light-locker. The junk that originates in the ship, pools in a ready-up area like the hangar bay, and then arrives on the flight deck is significant and preventable.

Capt. Dugene is a former F-8 and F-14 pilot. He was the Air Boss onboard USS *Carl Vinson* (CVN79) at the time of this story. He is currently an instructor at the Naval War College.

Weighing the Options

Photo by PH2 Johnny Grasso
Photo modification by Allan Amen

I looked over and saw the fire-warning light come on at full glow.

by Lt. Paul Crump

The preface of every aircraft NATOPS manual contains the following statement: "This manual contains information on all aircraft systems, performance data, and operating procedures required for safe and effective operations. However, it is not a substitute for sound judgment. Compound emergencies, available facilities, adverse weather or terrain, or considerations affecting the lives and property of others may require modification of the procedures contained herein." I didn't have a chance to put this statement to the test until a dark and overcast night a mere two days into WestPac-Arabian Gulf 99.

Because of low ceilings and poor visibility, CQ was painfully slow. The decision had already been made for the ship to steam west at the conclusion of the night's

CQ period, even though many pilots wouldn't be finished. We thoroughly discussed CQ and first-week-on-cruise ORM issues. Then we manned up our E-2, which was spotted behind cat 1, and launched into the darkness.

At 1,000 feet, above the overcast layers, the visibility was superb. It was a beautiful night with a bright moon and a good horizon. We were five miles from mother and still climbing to our assigned altitude of 5,000 feet for a few minutes of comfort time. I looked over and saw the fire-warning light come on at full glow. I stared at the light in quiet disbelief. I thought, "Great! I can't believe I'm going to have to come aboard single-engine on the second night of cruise!" A quick scan of the instruments and a thorough examination of the port nacelle revealed no secondaries. I leveled off, turned back toward mother, and started going through the fire-warning-in-flight procedure. Starboard power-control lever to max. Port power-control lever to idle. The gear was already up. T-handle pull. As I reached for the T-handle to shut down the left engine, the fire-warning light went out.

E-2C NATOPS contains the following warning: "Any illumination of a fire-warning light, regardless of intensity, shall be interpreted as an actual indication of fire and shall be treated accordingly." According to the emergency procedures, then, I should immediately shut down the engine. But I took a couple of precious seconds to consider our situation. In so doing, I tested the statement found in the preface of every NATOPS manual.

With the ship heading west at high speed after flight ops, I didn't think there was any chance that the battle group's senior officers would let me divert to the beach, because that would mean losing one of their high-value assets. Second, while the weather was wonderful above the layer, below the overcast, the night was blacker than black, with no trace of a horizon. In other words, it was not a great night for a single-engine approach. Third, the E-2 has a notoriously unreliable fire-warning system. Countless times, Hawkeye pilots have shut down what would prove to be a perfectly good engine because of a faulty fire-warning system. By the time I'd made a decision, my copilot had told CATCC of our situation, and the skipper was standing by on the radio. I told the skipper I intended to keep the engine on-line until I saw secondaries or the light came back on. He replied that the deck would be clear in about 15 minutes. It would be quicker to launch the rest of the cycle off the angle than for the flight deck to make an emergency pull forward. I left the port engine at idle until around five miles. After that, I used the engine sparingly during an uneventful night pass. Not only were we safely aboard, but I was current again.

An inspection by maintenance personnel revealed why the port fire-warning light had illuminated. A small bleed-air leak in the nacelle had produced enough heat to trigger the system. We still don't know why the light went out. Perhaps by reducing power on the engine, I reduced the leak in the bleed-air line as well.

As expected, the incident generated a lot of discussion in our ready room. While hindsight is 20:20, the discussions gave me a chance to reevaluate my decisions that night. After all, I had gone against NATOPS emergency procedures. Would I do the same thing again? Maybe not, but as NATOPS stipulates in its opening lines, blindly following emergency procedures is neither a substitute for sound judgment, nor does it absolve one from managing risks. Emergencies don't happen in a vacuum. Arm yourself by knowing your NATOPS emergency procedures, by understanding your aircraft, and by ORMing the situation. You never know when you'll be put to the test!

Lt. Crump flies with VAW-116. When he submitted this article, he had recently been accepted into the Navy Test Pilot School.

Ooh, Look, a Waterspout!

by Lt. Scott Erwin

I couldn't believe my luck as I climbed into the crystal-clear skies over South Texas. There I was, a bright-eyed T-45 student hitting the road for five days to finish up the instrument-rating portion of the jet syllabus with a good-deal cross-country to Washington, D.C. My IP for the next few days would be a very senior instructor with a "Santa Claus" reputation. I had walked to the jet without a doubt in my mind that this was going to be a weekend to remember. I would get away from the grind and heat of Kingsville, experience fantastic training in some of the busiest airspace in the United States, and (I hoped) boost my grade-point average a few notches before the dynamic parts of the curriculum began.

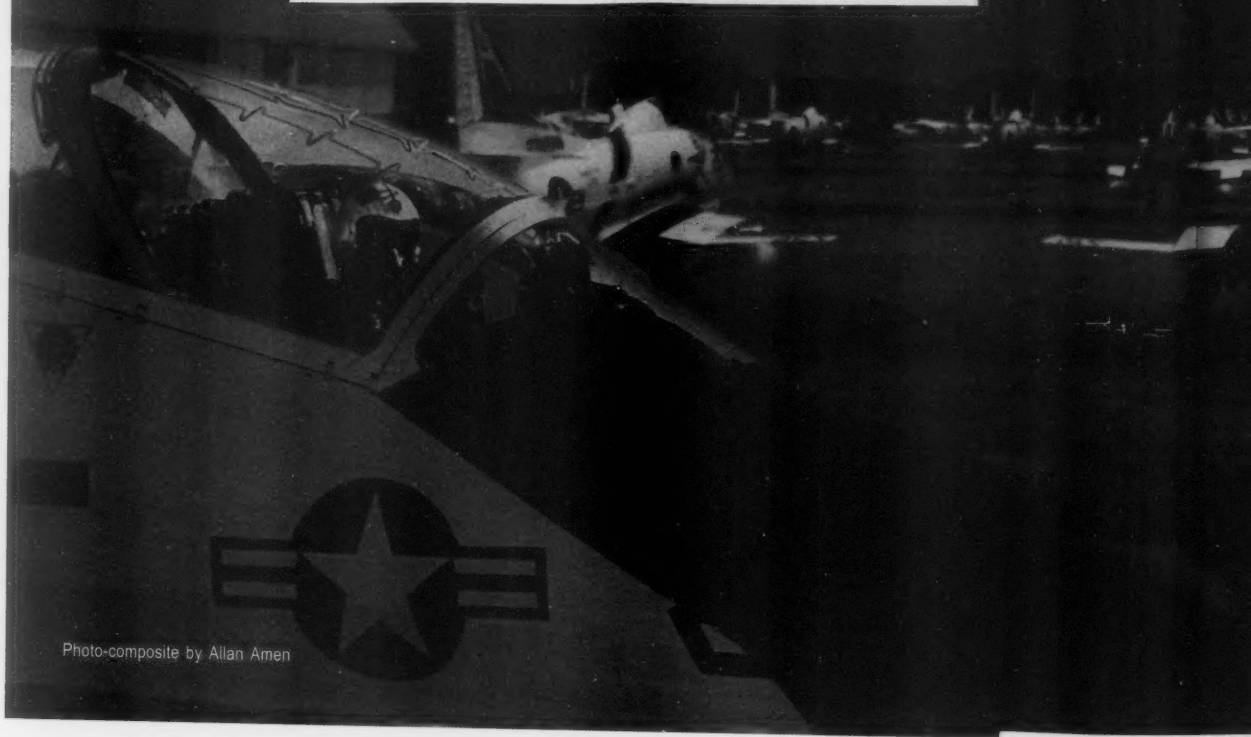


Photo-composite by Allan Amen

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THE MICROFORM EDITION.

The first two days were a breeze. We left Kingsville and stopped over in Acadiana for lunch, then continued on to Wright-Patterson where we stopped for the night while my IP took care of some business he had planned. The next morning we left at the crack of noon and proceeded to Andrews. With the exception of not equipping ourselves with the STARS for Andrews (my IP said we didn't need them), everything went off without a hitch. After putting the jet to bed and calling the squadron to notify them that we were safe on deck, we pressed out to the hotel for dinner and a quick re-rack. I was quickly learning that travelling with "brass" had its good points.

During the next two days, my instructor took care of business he had in D.C. I spent time with college buddies who were in the area by night and studied by day (well, afternoon at least). The night before we headed home, I asked what route I should plan for our return to Kingsville. He told me not to plan one just yet; he had heard a weather system was moving across the Midwest, and he didn't know where we'd go until he saw the forecast in the morning. **Very well, I thought, that meant a little more R&R before the hike back home. Sounded just fine to me.**

The next morning, we arose bright and early to head back to Andrews but were greeted with grim news. Pea soup had enveloped the entire area. The drive back to base took us three times as long as the ride out, with bumper-to-bumper traffic and a slew of accidents. I calculated our odds of getting airborne and started dreaming about another night on the town.

At base operations, we checked in with the weather briefer, who informed us that the fog should lift by early afternoon, but that a line of severe thunderstorms was approaching the Midwest, running from the Gulf of Mexico all the way to southern Michigan. Again I asked my IP what route he'd like me to crunch the fuel figures for, and he replied, "Don't bother." He said we'd wait until the weather lifted, and then we could take a look at the weather across the country.

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ORM EDITION.

By noon the fog lifted, and my IP formulated our plan: We would fly from D.C. to Atlanta on the first leg and assess the weather while we refueled for the rest of the return trip. "Roger that," I said, "I'll go do the planning, and we'll be off."

He then informed me that our fog delay had put us too far behind schedule and not to bother with that "silly" fuel planning. "When you've been around a while, you'll get a feel for how far you can make it on a tank of gas," my mentor intoned. I wasn't quite convinced, but he was in no mood to argue, so we filed our flight plan and walked to the jet.

Once airborne, I began trying to calculate the fuel numbers for getting to Atlanta, and the numbers weren't looking promising. The fact that we were flying into a 100-knot headwind the entire way certainly wasn't helping matters. Fifty miles east of Atlanta, the low-fuel light came on, and the seat cushion continued to inch its way into an uncomfortable place. ATIS was calling weather in Atlanta as 300 overcast, with rain and thunderstorms in the vicinity. Furthermore, winds on deck were from the east, so we would have to fly past the field, wasting more precious fuel to set up for the approach. Things were getting hairy, and I expected to hear my IP tell me he would be taking the controls to make sure we got this thing right. Instead I heard, "Have you ever shot an ILS before?"

"Uh, no," I replied, which was the best I could come up with, knowing what was coming next.

Sure enough: "Well, there's always a first time." I'd shot ILS approaches in the simulator, but that benign environment was nothing like the conditions we were in. Turbulence violently shook the airplane, and flashes of light through the rain-spattered canopy stole my attention from the needles. I did my best to concentrate, knowing there wasn't enough fuel for a second try. I kept wondering how this good deal had gone so bad. We broke out at 250 feet, slightly left of centerline. I dipped the wing and made it on deck. I tried to stop my hands from shaking as we taxied clear of the runway to the transient ramp.

As I shut down the engine, my instructor told me that I could monitor the refueling while he walked in to check the weather. I stood under the wing of my Goshawk and got drenched while I watched the fuel get pumped into the jet for what seemed like an eternity. When the fuel guy finished, he handed me the receipt, and I slogged my way into base ops to catch up with my instructor.

We decided that the best bet was to proceed from Atlanta to Pensacola, where we could one-leg it to Kingsville, provided we could get around the weather. In no time, we were suited up and headed for Pensacola, again with no planning other than the DD-175. Shortly after takeoff, my IP ceased responding to my questions on the ICS. As I looked in the mirror on the canopy bow, I could see him trying to get my attention by waving his hands. By process of deduction, I quickly figured out that the microphone in his mask had gone bad. I heard constant clicking and hissing noises in the ICS whenever he tried to talk.

The rest of the trip to Pensacola was conducted with me trying hard not to get a flight violation by telling him what I intended to do, with him giving me a thumbs up or down as he saw appropriate. My already frazzled nerves were not helped in the least by this methodology, and I wondered what could go wrong next.

We landed in Pensacola, and again I stayed with the jet during refueling while my IP went in to check the weather and plan a route for the next (and, I hoped, last) leg of our journey. When I wandered inside, the news got worse. The weather briefer told us that the thunderstorms were mere miles away from Pensacola and moving our way quickly. The entire area around the base was in a weather watch, and I began to think that reason would dictate that we call it a day and try again the next morning.

Apparently, my instructor saw it differently. Training-command aircraft aren't supposed to fly during a weather watch, but his plan was to take off as soon as possible. It was early evening and beginning to get dark. He planned to head south over the Gulf of Mexico to avoid the thunderstorms that topped out at over 50,000 feet. From there, we would cut west and proceed direct to Kingsville over water.

Let's recap: night, he had no way to talk to me, and there was a thunderstorm. Did I mention that it was January, and Pensacola was an unseasonably cold 30 degrees or so? With the way our luck had gone all day, it was with a sense of dread that I strapped on my gear and walked to the jet. The wind was whipping the trees to and fro in the

Continued on page 33

25K Feet *and* Feeling No Pain

by Lt. Eddie Ha

"Fifteen thousand feet." I immediately put away my water and re-secured my mask as we leveled off. The oxygen quantity showed 21 liters, and we were all getting good flow. After some discussion, we agreed to continue the mission while troubleshooting the problem.

We checked circuit breakers and recycled switches to no avail. Everybody seemed to be feeling fine, so I accepted the situation and focused on finding the tanker. At that point, I noticed a small leak in my mask across the bridge of my nose, but I was breathing OK and felt fine.

With my attention focused on finding the tanker, now showing 5 DME on the air-to-air TACAN, I had neglected to go through the steps for a cabin-pressurization failure. Fortunately, another ECMO took up the slack and read the procedure aloud. Still no luck. At four DME on the TACAN, I saw a glint ahead of us about 20 degrees below the horizon. I reached for the handle on the canopy bow with my right arm to pull myself up for a better view, and within seconds, my arm went numb, and the single glint turned into multiple glints. I felt lightheaded as I worked to figure out which glint was the real tanker. I realized my condition and 'fessed up to the rest of the crew.

The mission commander immediately decided to abort the mission as I pushed the oxygen mask more tightly against my face. We turned around and executed an emergency descent to 10,000 feet.

Once on deck, I went to see the flight surgeon. He checked me and put me on 100 percent oxygen for an hour. Having had decompression sickness during a previous chamber ride, I was convinced from my symptoms that I had it again, but, luckily, I was only mildly hypoxic. Decompression sickness could have easily developed from the hypoxia at altitude.

I could have prevented my hypoxic episode. I knew my mask didn't fit. It was loose, and air leaked past the bridge of my nose. I should have spent a few extra minutes with the PRs and had it fitted.

Aviators can get by with a few things not working 100 percent, but the oxygen supply isn't one of them.

Lt. Ha is an ECMO with VAQ-134.

ORM CORNER

ORM Corner
is a bi-monthly department.

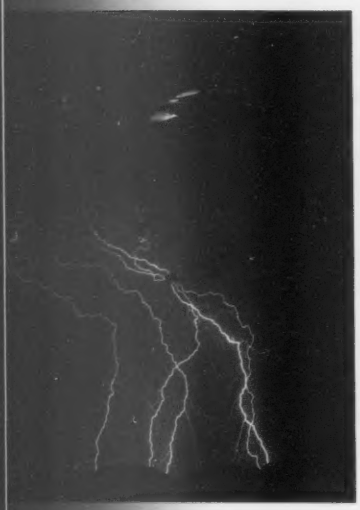
Please send your questions, comments or recommendations to Mr. John Mahoney, the ORM coordinator at the Naval Safety Center, or to Capt. Denis M. Faherty, Director, Operational Risk Management. Mr. Mahoney's address is: Code 70, Naval Safety Center, 375 A St., Norfolk, VA 23511-4399. DSN 564-3520, ext. 7243. Comm: (757) 444-3520, ext. 7243. E-mail: jmahoney@safetycenter.navy.mil

Write Capt. Faherty at OPNAV Code N-09K, 2000 Navy Pentagon, Rm 5E-816, Washington, D.C. 20350-2000. DSN 224-8430. Comm: (703) 614-8430. E-mail: faherty.denis@hq.navy.mil

Mother Nature Tracks Us Down

by Lt. Steven Nassau

It was a dark and stormy night, really. I was nearing the end of my FRS experience at HS-1 and looking forward to getting into the fleet. We briefed at 1800 for a 2000 go. My instructor for the evening was known for his extensive (read "long") and thorough briefs. The weather was typical of a late-summer, Florida night: hot and muggy with isolated thunderstorms rolling in from the west. We talked a little bit about the weather, but because it was a standard forecast, we didn't think much about it. I was excited, because I had been cancelled twice earlier in the week.



About half an hour before we were to catch our hot pump and crew swap, an intense storm cell dumped water on the field. We joked about how wild the cells were, but we didn't consider any new risks.

Our Seahawk came in on time and we took off. We immediately headed out to the warning area to get in some SAR practice prior to working the pattern at NAS Mayport. About halfway out to the area, it started raining, and I began to suspect that the evening was not going to go as smoothly as I had thought. The winds started to gust, and our Doppler radar indicated sustained, 25-knot winds.

We were undaunted, reasoning that we were probably only catching up with the backside of the line. Once we got to the area, we figured, the storms would continue to roll eastward. The seas were heavy, and the Doppler was having a tough time estimating the ground speed. Our first automatic approach went OK (except for the wind, the rain, the seas, and Doppler), and that somehow bolstered our confidence. During our second approach, however, the wind and the rain had picked up. I continued, reasoning that the SH-60F was an all-weather aircraft, and this would be valuable training I could use in the fabled fleet. I also noticed, for the first time, no one else was saying anything. I fought the aircraft all the way to the hover, trying to keep the approach within parameters. I began to suspect, toward the bottom, that I was in way over my head. I said nothing, reiterating to myself that I "needed" the X to keep progressing and that this was "great" training.

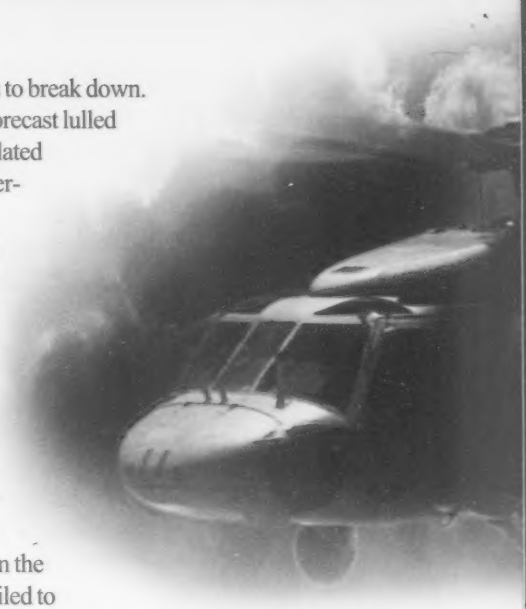
I noticed the rain was pouring down, and for the first time, the instructor said something about the water and the potential for a flameout. Sure enough, we got into a coupled hover, and suddenly I found myself staring at a master-caution light. With my heart deciding to share room in my head with my overtaxed brain, I sneaked a quick look at the master-warning panel before practically pulling the collective out of the floorboards. My brain finally registered that it was a radalt failure—not as serious, but not minor either, given the conditions.

The rest of the crew and I began to calm down. I realized that my training had kept the helo flying (it certainly wasn't a conscious effort on my part). The instructor congratulated me on how well I handled the emergency and explained that the radalt must have just locked on to the rain.

I'd like to say that, like sane people, we headed home, but we didn't. We decided to try our luck a little farther south. We raced into some clear air and began to shoot approaches. Sure enough, it took Mother Nature about 10 minutes to find us, and then we were right back in the soup. This time, however, a voice of reason came from the back, explaining that no further training could be reasonably squeezed out of the evening. The instructor concurred, and we scooted for home.

In the surprisingly short debrief, we talked about the flight solely in terms of the training that we did or did not accomplish and then headed home. Later, I mentally reviewed the flight, realizing the truth of the adage that there are two types of aviators, those who have been scared in an aircraft and those who will be. I had just joined the former.

I thought more and more about the flight in terms of ORM. *Identify the hazards.* Check—we talked about the weather in the brief. *Assess the risks.* Oops, the model starts to break down. The repetition of the forecast lulled us into a belief that isolated meant away from wherever we were flying. *Make risk decisions.* Nope. Training flights are about as far away from "operational necessity" as you can get. We didn't implement and supervise controls at all. We didn't discuss abort criteria, and even the fabled sanity check failed to bring us back quickly enough.



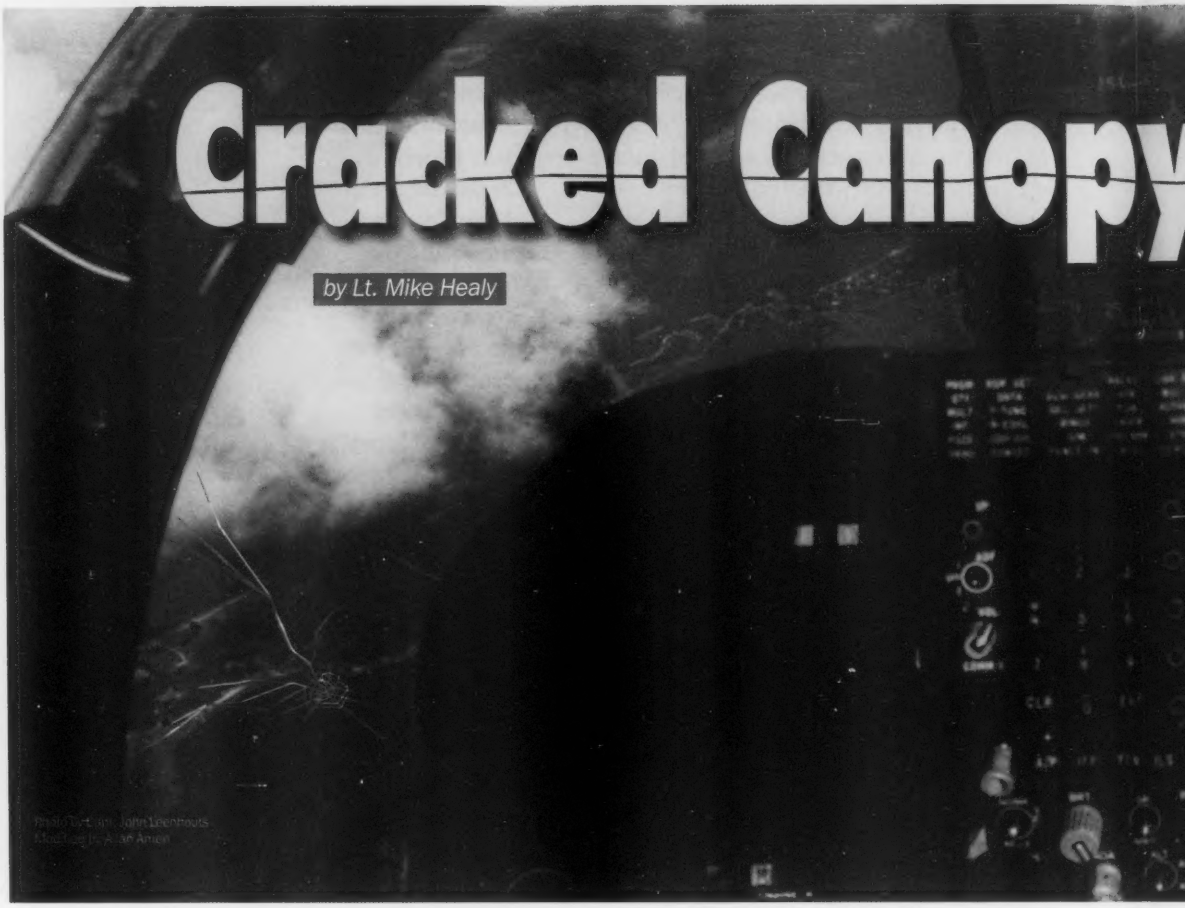
An unbroken chain of events leads to every mishap. I don't know what link was missing that night, but we weren't far from completing the chain. When I read *Approach* and see all of the articles that start with "It was a dark and stormy night," I wonder how many of them could have been avoided by applying ORM and deciding that the "great training" isn't worth the risks.

Lt. Nassau flies with HS-3

Photocomposite by Mike Kasen

Cracked Canopy

by Lt. Mike Healy



The air wing had been conducting sustained combat operations over Serbia in support of Operation Allied Force for five weeks. The briefings and debriefings had become routine, and this day was no exception. My junior wingman and I were excited about the prospect of two JOs raging into bad-guy land on a close air support (CAS) mission, dropping bombs and launching missiles, and then returning to Mom for the Sierra-Hotel break. It was the kind of hop that makes an aviator wonder why he gets paid for flying jets.

The brief, man-up and launch were uneventful. Magnum Joe and I joined up during the transit to the tanker track. After we topped off from Iron Maiden, we proceeded to our holding point on the border between Albania, Kosovo and Montenegro.

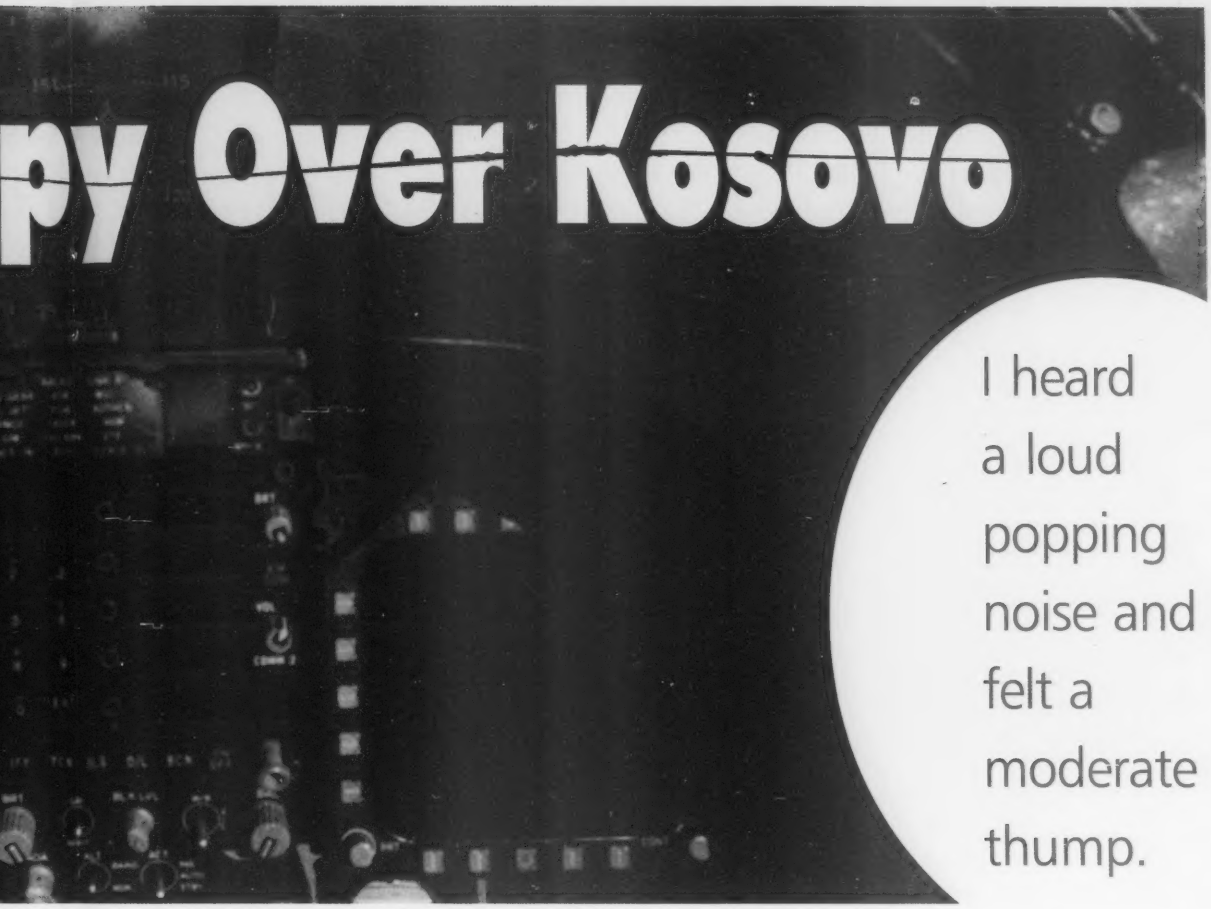
The adrenaline began pumping as we checked in and listened to the chatter on the FAC(A) [forward air controller (airborne)] frequency.

"Tanks in the open, tanks in the open, Holmes One Two proceed to the target area!" That was our cue.

We pushed from the control point at 30,000 feet and 520 knots. We double-checked that everything in our cockpits was configured for combat.

As we crossed the border and began our descent to the ingress altitude, we began to randomly jink our aircraft while scanning the ground for AAA and surface-to-air missiles. Approximately 25 miles into Kosovo, I heard a

py Over Kosovo



I heard a loud popping noise and felt a moderate thump.

loud popping noise and felt a moderate thump. I scanned the engine instruments and hydraulic gauges and was relieved to find normal indications. My wingman was still in his briefed position, so it was obvious we hadn't bumped each other.

As I continued to ponder the probable causes of what I had heard and felt, I noticed a 5-inch crack in the forward left corner of the canopy. "Did I miss that on the preflight?" I wondered. I then noticed that the triangular piece of glass now formed by the crack and the canopy rails was pushed inward slightly and that the crack had migrated through the entire thickness of the canopy glass.

Canceling the mission was one of the toughest calls I've ever made, but I notified the FAC(A) and expeditiously exited Kosovo.

Once safely across the border, we slowed down and began a gradual descent for the transit back to the ship. My wingman and I briefed the contingencies in the event I lost my canopy. There were two diverts, and we decided that Dash 2 would take the nav and comm lead since I would not be able to hear anything. I lowered my seat, tightened my mask and visor, secured loose gear in the cockpit, and crossed my fingers.

Luckily, I didn't have to flight-test the convertible version of the Hornet that day. The remainder of the flight, including the straight-in approach, was uneventful. The engineering investigation into the cause of the crack is still in progress.

Lt. Mike Healy flies with VFA-15

CLIMB OR DIVE?

by Ltjg. Rich King

Having recently received my PQM (Pilot Qualified in Model) letter in the SH-60B, I was anxious to embark on my first underway: a five-week fleet exercise in the Puerto Rico Op Area. Still adjusting to flying as a member of a crew instead of a student, I was about to learn important lessons on crew coordination and flying what was briefed.

As soon as we lifted in the early evening, things were already busy with the ASW exercise. Two ships were reporting hot contact, and another helicopter was inbound to datum. We were closer and were instructed to immediately get on top of contact and put an SUS on target. After two urgent attacks, we were vectored by our ASTAC to play high boy at 800 feet and let some other assets get in on the fun. The other SH-60B, an unannounced SH-60F, and a number of ships were trying to get in the act. We were instructed to head south to clear the area and allow a sister ship to conduct an over-the-side torpedo shot.

The hazy evening that we had launched into gradually turned into the classic black night at sea with no moon and an obscured horizon. I was in the left seat trying to recover from the frantic pace of prosecuting a sub. Our det OinC was the HAC, sitting in the right seat as we headed 180 to clear the area. After settling in at altitude and reporting, "Cherubs eight, clear to the south," we noticed two lights at the same altitude heading in our general

Photo-composite by Allan Amen

direction. We guessed they were two miles away, but they could have been five miles away in the perception-robbing blackness. We decided to turn on our searchlight to allow the oncoming aircraft a better view of our position. We began turning right to increase the lateral separation. We remarked that the aircrew in the other aircraft would certainly see both our lights and our unmistakable turn, and they would turn in the opposite direction. Instead, the phantom aircraft appeared to start a slight left turn and ended up in a modified trail position behind our aircraft, at the same altitude, allowing only the SO and myself to keep visual sight of the aircraft.

With the contact still closing, and its lights glowing more brightly, it was time to start thinking about more aggressive evasive action. Not able to see the incoming aircraft, the OinC called for a recommendation: "Climb or dive?"

"Dive, dive, dive!" the SO and I called in unison, as we started to hear the noise from the engines of the other aircraft. The HAC immediately lowered the collective and began an emergency descent. As we sped through 600 feet, the unmistakable sound of turboprops began to drown out our own aircraft's engine and rotor noise. We stopped our descent at 400 feet, just in time to see the underbelly of the other aircraft as it flew over and past us. Our aircrewman had the presence of mind to direct our onboard FLIR in the direction of the outbound aircraft in time to verify that a P-3 barely had missed us. It had passed overhead with approximately 200 feet vertical separation, within one wingspan of lateral separation, and proceeded onward as if the aircrew never saw us.

Immediately after this incident, we (not so professionally) called our ASTAC to find out who was in the other aircraft and what they were doing in the area. Our controller reported that they didn't hold the contact on radar, the contact wasn't talking to them, and they didn't know who was controlling it. The other aircraft had been vectored in from another controlling unit to assist with the ASW prosecution but had failed to check in or let any other aircraft operating in the area know they were inbound. The controlling agencies also failed to talk to each other. Positive control of the aircraft was never transferred to the agency that was working and had control of its assigned area.

The unmistakable sound of turboprops began to drown out our own aircraft's engine and rotor noise

Good crew coordination and a textbook NATOPS brief kept our two aircraft from trading paint. The crew had thoroughly briefed lookout responsibilities. In the case of an immediate airborne threat, any crew member can call for an immediate climb, descent, break-right or break-left, as necessary, to clear the threat. The flying pilot executes the maneuver without question, and everyone discusses the situation afterwards.

See-and-avoid as taught in flight school is just as important out in the middle of the ocean as it is at a busy airport. The P-3 pilot maneuvered as if he hadn't seen us, and we don't believe he ever did. We initially saw the P-3's search lights pointing into the waters below, and, had they not been on, we might not have seen it at all. We still haven't figured out why they didn't respond to our searchlight or our large, deliberate turn away from them.

Lt(jg) King flies with HSL-48's Det. 5. He had graduated from the SH-60B FRS two months before the underway period mentioned in this story.

FANCY MEETING YOU HERE

by LCdr. T.A. Meadows

On a very dark night, the air wing launched another sizable strike-familiarization package in support of Operation Southern Watch (OSW). However, the composition of this package was unique. Not only did we have a dozen or so of the standard air-wing aircraft, but we also had the pleasure of being the second package of our deployment to include some of our allied friends in the theater: British pilots flying Harriers.

The brief was the standard OSW strike fam with a little multi-national twist thrown in. Nothing this salty air wing couldn't handle. There had been some communications problems between our ship and our newly arrived allies, but we felt the recent meetings between the pilots from both ships had worked out the tactical procedures related to the mission. Armed with this information, the players launched for our respective tankers.

Night tanking over Kuwait with 20 aircraft on two tankers is enough to raise the blood pressure of any pilot, and this time was no exception. During a careful rendezvous, we had ample opportunity to swap paint with a number of our air-wing brethren, and once joined, the excitement continued. Flying as Dash 6 on the port wing of the USAF tanker on a no-horizon night kept me on edge. As the long echelon played crack-the-whip into and out of every turn, each pilot was working hard to maintain a good position.

My wingman and I finally got our fuel and were able to depart the tanker to the relative safety of our rendezvous stack. Once joined, the entire package pushed in-country under NVG lighting, and I felt the worst was over. Everyone in the package seemed to be in place as I watched the air-to-air tacan steady to the briefed range. The other players were positioned a couple miles in front. The tactical procedures went as planned, although some low-altitude clouds obscured the target area. This kept us from doing the final part of the mock attack. Everyone was disappointed.

I made the final turn away from the target to an egress heading. Shortly after rolling out on course, I saw something unusual out of the corner of my eye. A set of unfamiliar aircraft lights was crossing my path, close and getting closer! I

A set of unfamiliar aircraft lights was crossing my path, close and getting closer!

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Photo-composite by Allan Amen

shoved the nose of my aircraft down and watched as the unknown aircraft crossed overhead, passing within 200 feet of my FA-18. From his heading, I knew there was no chance he was a part of my mixed Hornet-Harrier division. My wingman was in position a mile out to my left, and my Harriers were in trail a couple of miles back (judging from the tacan range). The other aircraft in the package should have been at least 20 miles away. It had to be one of the SEAD support aircraft far out of position.

During the debrief, everyone claimed to have been at the prescribed altitudes and positions. No one could explain who or even what I had almost collided with shortly after coming off target.

The mystery was solved two days later when, by chance, I met up with an old friend of mine from the British carrier. We were discussing the good old days during his exchange tour with our Hornet FRS (where we both had been instructor pilots years earlier) when, ironically, the topic of the near-midair came up. The communication problem mentioned earlier almost cost the allied forces two aircraft and two pilots, my old friend and me. He never had received a full strike plan from our strike lead. His Harrier section, flying the fighter role, was capping overhead my target, on my altitude, instead of the correct position well to the northwest. The British gent was equally convinced one of our strike elements had been in the wrong place at the wrong time.

As we continue to operate with other services, either foreign or domestic, we have to get the plans passed by whatever means available. This may be easier said than done. Communication was consistently the largest problem in the Gulf. The ATO is a great tool for working the bugs out of the big picture but does nothing to deconflict you from your own package. As a last resort, discuss any unresolved matters on the strike frequency; make sure all players are singing from the same sheet of music. Also, if the brief contains hints that something was not well-coordinated, you can bet that it wasn't.

I enjoyed running into my old friend while we were safely onboard the carrier. The airborne meeting was too sudden and much too close.

LCdr. Meadows flies with VFA-86.

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If I Knew Then What I Know Now

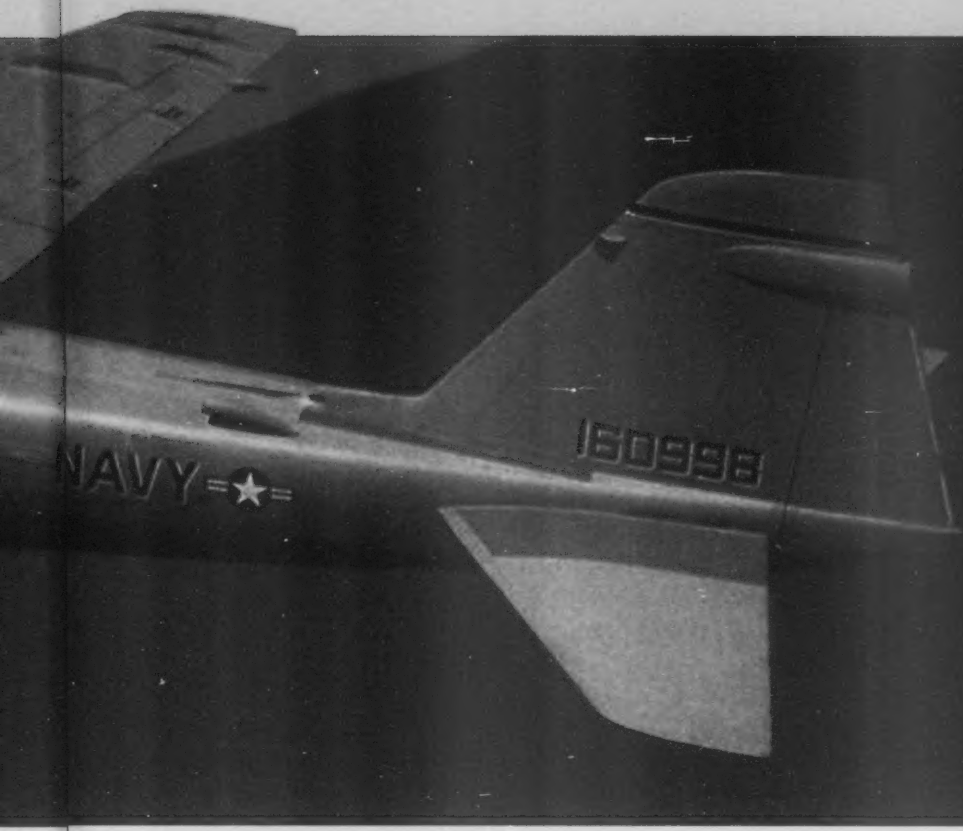
by LCdr. Patrick Porter

Some years ago, I got an excellent lesson in the role of human factors in naval aviation. Our forward-deployed air wing had just finished an at-sea period off the Philippine coast after making the final port visit of an American aircraft carrier to Subic Bay Naval Base. In a day, the ship would pull into Hong Kong for a few more days of good WestPac liberty. Before that, the air-wing commander wanted most of the aircraft off the ship and back in Atsugi. This would allow the squadrons to prepare the aircraft for the upcoming Arabian Gulf deployment, which would create the no-fly zone over Southern Iraq and what we have come to know as Operation Southern Watch.

As a bonus, a fellow JO and I were selected to fly the last Intruder off the ship and back to Atsugi. He would get some extra time with his family before deployment. I would embark on a C-9 the next day bound for Hong Kong, where I would get my four days of WestPac liberty. An extra night off the boat, an extra 3.5 hours of flight time toward that 1,000-hour patch, and no loss of liberty to boot!

When we walked to the jet, the AMEs and other mechs had the starboard engine-bay door open and were replacing bleed-air ducts. Like most other parts on the aircraft, the ducts were practically inaccessible. We waited patiently, watching the rest of the aircraft from our event launch. Thinking that we were going to end up losing our good deal, we asked the FDC to call down to maintenance and find out if the SDO had some gouge. The benevolent air boss decided to keep the deck open until sunset for us, but we had to get the jet up in the next hour.

When the mechs finished, we manned up. By now, we were the only aircraft on the roof. All the yellowshirts, cat and arresting-gear crews, and



squadron maintenance folks were standing around, waiting for us two aviators to square away our program so they could go get chow. As we turned up the jet, we heard the all-too-familiar sound of whining hydraulic pumps, which usually meant the pumps were going bad. But since so many had worked so hard to launch this aircraft, we weren't going to disappoint them. We decided to go to the cat and check the hyds at mil power, where the engine should spin that pump at a rate sufficient to maintain system pressure within limits. The pilot did the wipeout—very slowly, I might add—to avoid cavitating the pumps. The hyds dipped slightly. Next thing we knew, we were hurtling down the cat.

We had planned to gas-and-go at Kadena Air Base, then continue to Atsugi. When we lowered the gear upon arrival at Kadena, the hydraulic gauges dipped dramatically, and it took several seconds longer than usual for the landing gear to fully extend. After a few more tense seconds, the gear-position indicators indicated three down and locked. We landed, got our gas, and walked back to the jet for the last leg of the trip. As we discussed how we would handle the hydraulics, we agreed that we surely couldn't strand the jet in Kadena. With a deployment only a few weeks away, and squadron personnel scattered between our home base 800 miles to the northeast, and our ship another 400 miles away steaming the opposite direction, we decided we had bought the problem and would have to get the jet home.

To protect our weak hydraulic system, we agreed we would raise the gear normally after takeoff, then electrically raise the flaps to reduce the load on the hydraulics. When we got airborne and raised the gear, we got a big dip on the gauges, but they eventually went up and locked. Phase one of the plan was complete. Retracting the flaps worked like a champ, and phase two was complete. We were on our way. Once the combined hydraulic system was isolated via a switch on the pilot's instrument panel, we breathed a sign of relief.

As the trip wound down, we found ourselves back in familiar surroundings. We asked for a visual straight-in to runway 01 at Atsugi. At eight miles, we went dirty. Well, we tried to go dirty. The

hydraulic gauges dipped almost to the bottom, and we got three unsafe gear. We had 4,000 pounds of fuel, so we had a little time to deal with this problem, but we knew that our last option would be to blow the gear down. We knew we would have to answer questions if we did that, but more importantly, aviators get uneasy about having to expend their only remaining option. If we shot that silver bullet and it didn't work, we were going to have serious problems.

After what seemed like an eternity, air loads drove the mains to the down-and-locked position. As we slowed, the weak hydraulic pressure overcame the drag against the nose gear, driving it down and locked as well. We discussed taking a trap if the hydraulics failed on final, and I kept a close eye on the gauges. We landed uneventfully, and the brakes worked fine.

When we got out, we downed the aircraft for the hydraulics. No one ever asked why or how the problem originated. They just fixed it and returned the jet to the flight line.

Back then, a mindset of "I can hack it" was admired. We knew we had a job to get done, and we "knew" we could do it. But since then, with 2,000 more hours, 600 traps, and a trip to School of Aviation Safety at Monterey, I find myself looking back at that incident in a different light.

The pressure to accomplish a mission can be enormous. Today, the complexity of our missions requires hours of planning and extensive, detailed briefs. In the F-14A community, many man-hours of effort are required to get an aircraft ready for flight, and a lot of effort by a lot of people is wasted if the jet doesn't make it off the pointy end to complete the sortie.

It is easy to quote go/no-go criteria and advise aircrew to make the hard call when required. Often, the call is easy: a hydraulic system that is bleeding onto the flight deck. The subtler, gray areas are where the real pressures exist. Those pressures can produce poor decisions. A conservative crew decides that an aircraft isn't airworthy; another crew decides it is perfectly flyable. Our policies aren't that inconsistent; the variable is human factors.

If we shot that silver bullet and it didn't work, we were going to have serious problems.

In the years since this incident, a great deal of research has been done in this field, studying the role of the human in a system comprised of himself, his machine, his environment and the operating rules. Naval aviation's Human Factors Quality Management Board was chartered to reduce mishaps caused by human factors. There is still progress to be made.

By now, many of you may be familiar with the Human Factors Accident Classification System (HFACS). Perhaps you've seen LCdr. Scott Shappell's brief entitled "The Taxonomy of Unsafe Operations." If so, you know about organizational factors, unsafe supervision, preconditions for unsafe acts, and the unsafe acts themselves. The first three categories don't directly cause mishaps, but they set the stage for them. Unsafe acts are active failures. They cause mishaps because of things people did or did not do. Unsafe acts may be errors, where the aviator didn't intend to do something hazardous, or they may be violations, where he or she knowingly performs a hazardous act.

Focusing on human factors can help a squadron see if its culture conditions aircrew to commit unsafe acts. If the leadership of the command is open to honest self-assessment, squadron members will suggest solutions to serious problems before mishaps.

Battle-group commanders, CAGs and squadron COs must learn about HFACS so they can assess the organizations they lead. Department heads must familiarize themselves with it to be better at administering and guiding their departments, planning operations and rooting out potential causes of mishaps. JOs must learn it to be aware of pitfalls and be armed to combat them.

As for me, my desire to "make it happen" for the squadron and get a jet home (and secure my good deal) are easily found in the list of preconditions to unsafe acts. Another young crew, armed with a knowledge of human factors, can recognize such situations and resist the pressure to make the wrong choice.

LCdr. Porter is the maintenance officer with VF-154. He was an A-6E bombardier-navigator with VA-115 at the time of this incident.

Dehydrated Much?

by Lt. Brad Owen

Picture yourself in the Persian Gulf, waiting to launch, and surprise, surprise, the temperature is pegged on your outside air temp gauge. This scene is ops normal for just about every air wing in WestPac these days. How many times have you felt tired, extremely thirsty, dizzy or slightly nauseated after sitting in a 100-degree cockpit on deck for an hour? As I climbed into the cockpit and sat there for what seemed like the ninetieth time for a turning spare during Operation Southern Watch this cruise, that feeling seemed all too familiar. We were underway again after a four-day port visit in Jebel Ali. Not the best liberty on cruise, but one we'll always remember.

For one thing, I remember those shawarmas as if it were yesterday. This tasty little cross between a gyro and a burrito was delicious. Cheap, too, usually three for a dollar, perfect for the midnight munchies before we headed back aboard for another month. Unfortunately, the next few days produced the Middle Eastern equivalent of Montezuma's revenge. Diarrhea rampaged through the ready room. I wasn't spared, but when it came time to fly the next day, I felt OK. It was only an hour-and-fifteen-minute cycle, and I was only a spare. What could happen in that time?

We briefed, and after a quick trip to the head, we manned up. The temperature was 104 degrees on the flight deck before we started some 30 jet engines, with a heat index around 120. It didn't take long for me to sweat through my flight suit. Once our canopy was closed, the temperature seemed to rise exponentially. The meager air flow from the Prowler air conditioner at idle rpm didn't help. It seemed an eternity for the "go" bird to call and tell us they were up. I felt parched even after two quarts of water.

We were shocked when our squadronmates called and told us we were to launch. We taxied out from the finger, and I was quite dizzy. We finished the before-takeoff checks, and soon were in tension. The cool air felt great as we launched, but it was a few minutes before my dizziness and nausea passed. As we climbed to altitude, the temperature dropped to 70 degrees. From the sauna to the snowdrift.

I now wonder what I would have done if we had lost an engine on the cat, or if we'd had a fire shortly after takeoff? Would I have been able to react? Would a sudden shot of adrenaline have done the trick? Would I have been on top of a compound emergency? I'm glad I didn't have to answer these questions. Extreme hot-weather carrier ops are the most demanding environment in carrier aviation today. Make sure you're 100 percent.

Lt. Owen is the NATOPS and ground-safety officer for VAQ-131.

Single-Engine Snafu

by Lt. Pete Staufenberger

We were on the proverbial routine training mission in the Arabian Gulf a little more than four months into cruise. We had launched off the ship for a double-cycle, airborne-intercept-control hop and a night trap for one of our nugget pilots. Set up on station at 21,000 feet, 80 miles southwest of the boat, we noticed a flicker in the starboard fire-warning light. (It is amazing how bright that light is at night.) I told the mission commander, who was in the tube, about the light, told him I was going to declare an emergency, and we started a turn back to the boat. The air control officer and radar officer relinquished control and told their assets about our

situation. I called Strike to declare the emergency and requested an emergency pull forward.

I told the nugget to start a descent, engage the AFCS, and unstrap for the seat swap. As we swapped seats, the fire-warning light flickered, then came on steady. I would've executed the standard procedures immediately after getting the fire light the first time, but two things concerned me. First, there was no way we could maintain altitude single-engine at 21,000 feet. Second, I'd never attempted a single-engine seat swap before and was concerned about controllability. As soon as we were both strapped in, we executed the engine-fire-in-flight procedures IAW NATOPS.

We leveled off at 8,000 feet, dumped gas down to 7,000 pounds to lighten our gross weight, and continued inbound to the ship. We started the post-shutdown procedures and decided to put the air conditioning into override until we dirtied up on final (it was the Gulf, after all). We then noticed something strange: The circuit breaker for the right-engine fire extinguisher was popped. Not knowing if the bottle had been expended, we reset the breaker and pushed the button. The breaker popped again. No one in that aircraft had a warm, fuzzy feeling that the bottle had been expended. But the fire-warning light remained out. The ship vectored us for the approach, and I intercepted the final bearing at 21 miles and 6,000 feet. We were asked to dirty up at 10 miles for spacing. (A recovery was in progress.) Single-engine controllability is not a problem, but I was beginning to think we might not have enough power for a waveoff. It required 1,040 degrees TIT on the port engine to fly on speed at 1,200 feet. The gear would have to come up immediately if we were waved off. As it turned out, we were locked up at 5 miles, flew a solid needles approach (somewhere in the middle, paddles told me I was "a little overpowered," which was exactly where I wanted to be), and caught the 3-wire for the OK.

After we returned to the ready room, we debriefed the flight. The front-to-back crew coordination was excellent. After notifying the CICO of the initial fire light, the controllers quickly turned over assets, switched frequencies for me until UHF-1 was available (it was being used for anti-jam intercept control), and backed us up by breaking out the pocket checklist. The coordination in the cockpit was just as solid. After a quick seat swap, my nugget copilot performed flawlessly. His use of the checklists was impeccable, and his timely suggestions about dumping fuel and securing the air conditioning on final in order to have more horsepower available were right on. The entire event could not have gone more smoothly.

In retrospect, the only thing I would have done differently would have been to secure the engine immediately. The technicians found a faulty fire-warning element (a nagging problem in the E-2 community); I suspected this problem when the light flickered, but you can't count on that. The fire bottle had worked. I was told afterward by our omniscient maintenance master chief that the circuit breakers sometimes pop because the CADs short themselves out after the button is pushed *[A hazrep was submitted about this problem on Aug 3, 1999.—Ed.]*. Having never heard this in more than four years and 1,400 hours flying the Hummer, I realized that there really is no way of knowing if the bottle has discharged. If there had been an actual fire and the bottle hadn't worked, the extra time we took to secure the engine could have been the difference between bringing the plane back in one piece for the OK and giving it back to the taxpayers.

Lt. Staufenberger flies with VAW-124

BRAVO Zulu

Lt. Paul Carelli
LCdr. Tim Drew

Lt. Carelli (pilot) and LCdr. Drew (copilot) were making a night, straight-in approach to NAS North Island when their S-3's trailing-edge flaps locked at 5 percent. After orbiting overhead, they planned to make an arrested landing and received clearance to land on runway 36.

At 2,500 feet, while maneuvering to the runway, the aircraft made a gradual, uncommanded pitch-up. After verifying that this movement didn't come from a pitch-trim run-away, Lt. Carelli saw the elevator-bias cockpit gauge oscillating, indicating a possible failure in an important part of the longitudinal flight-control system. The crew ran through NATOPS procedures for uncommanded pitch-roll-yaw, but the aircraft pitched nose down and lost nearly 600 feet. Then it pitched nose up and continued to pitch up and down, plus or minus 15 degrees at 30 degrees per second, all the while losing altitude.

With nearly 270 degrees of turn remaining to line up on the runway, Lt. Carelli determined he couldn't make it. He told tower he would try for runway 29, the inactive runway. The controller replied that the short-field gear wasn't rigged and that there was a truck on the runway. LCdr. Drew acknowledged this report and asked to have the truck removed. Lt. Carelli touched down at 150 knots between the 5-board and 6-board, engaging the long-field gear at 100 knots.

Postflight analysis revealed that a shorted wire in the flight-mode selector panel made the pitch axis of AFCS intermittently engage and disengage, resulting in the uncontrolled condition.

VS-41

SEA CONTROL SQUADRON 41

VFA-115

During a night, air-to-air sortie from a carrier, Lt. Brooks faced multiple emergencies and unfamiliar configurations. His aircraft developed a hydraulic system 2A (HYD 2A) failure and leading edge flap (LEF) lockout. He set up for a half-flap approach and lowered the landing gear with the emergency system. He had to fly the approach at less than 7 degrees alpha (approximately 160 KCAS) because of the problems with the leading edge flap (it was split and extended less than 10 degrees). After extending the landing gear, he flew his first approach to a bolter (a result of the increased approach speed, higher wind over the deck, and unfamiliar alpha required, which meant that minor, longitudinal, stick inputs rapidly flatten out the approach). Since the landing gear had been extended after the HYD 2A failure, Lt. Brooks couldn't retract them. Committed to dirty bingo numbers, he tanked in the dirty configuration by extending the inflight refueling probe, using the emergency method. After tanking at 225 KCAS, with the landing gear down, he flew a flawless approach to an OK 3-wire.

Lt. David Brooks

BZs require an endorsement from the nominating squadron's CO and the appropriate CAG, wing commander or MAG commander.

In the case of helo dets, the CO of the ship will suffice. A squadron zapper and a 5-by-7 inch photo of the entire crew should accompany the BZ nomination. Electronically-submitted photos must be at least 300 dpi. Please include a squadron telephone number so we can call with questions.

That Sinking Feeling

by Lt. Donald L. Gaines

The day started like any other spring-time SOCAL day: lots of high-level clouds and a slight possibility of rain, according to the weather-guessers. North Island Metro said the ceiling wasn't forecast to go any lower than 2,000 feet, with a slim chance of rain in the vicinity. As the day's FCF crew, we checked in with maintenance control to find that our only task for the day was a Phase B FCF, typically a 15-minute flight. We briefed and were headed out to the aircraft for preflight when the SDO informed us we were assigned to a collateral mission first, spinning backup for an H-3 VIP transfer to Camp Pendleton. Not a problem, Semper Gumby is the name of the game for us.

We re-briefed, preflighted, and spun up the backup bird. Once the H-3 was airborne, we switched over to the FCF bird. One of the vibe wires was bad; we had to shut down for a half-hour so the maintainers could replace the faulty wire.

Once again, the SDO changed our game plan. Now we had to take the VIP backup bird up to Camp Pendleton and act as chase aircraft for the H-3's VIP return flight to North Island. Off we went. The weather was as advertised until we hit Del Mar, where the ceiling quickly deteriorated

below 1,000 feet. As we continued north, we found the cloud layer at 600 feet and visibility below three miles in rain off Camp Pendleton. Once on station, we talked to Long Rifle (the area controlling agency) and were informed that the base was currently under quiet hours. Our options were to continue circling or to land at one of pads along the coastline. Not wanting to linger in the worsening conditions, we opted for the latter and sat on deck for about 20 minutes until we saw the H-3 depart. We followed in loose trail and had a hard time keeping the lead aircraft in sight at any distance greater than about a mile because of the rain. Once south of La Jolla, the weather began to clear, and the rest of the flight home was uneventful.

We found our FCF bird ready and waiting. We quickly changed gears and had the FCF in hover checks. While on the pad and ready to begin the forward-flight portion of the FCF, we saw ATIS was way off with their weather report. ATIS said the conditions were 2000/5, but we could tell it was 1000/3 at best and getting worse. We called Metro again, and the forecaster reported that ATIS was being updated, and that the weather was 1000/3. He used the phrase "marginal VFR." I wondered what that was, but because the FCF flight portion was less than 15 minutes, I decided to press on. I figured we could shoot out toward the bay, cut across the strand four miles out, and then head back in. However, once we hit the four-mile mark, the run was only half complete. I decided to continue down the bay and called up Imperial Beach tower to coordinate working in their airspace. They told us the field was currently IFR, and nobody was allowed in or out. We decided to cross at the comm station and head out west. I started to get that sinking feeling. As we crossed the beach line, Imperial Beach tower called us requesting a PIREP, and we reported 500/1. The crew chief reported the vibe run complete and said we could head back.

So I dialed up ATIS and all we got was static, meaning the information was being updated again. That sinking feeling got worse. As we continued into North Island, I called tower and reported my position at six miles to the southwest. Tower quickly replied with "Sideflare Seven Zero, state your exact location and ident immediately." That sinking feeling now felt like a ton of bricks weighing on me. I complied, reporting my position on the 190 at five miles.

"Sideflare Seven Zero, you have an SH-60B at three-quarters to one mile at same altitude," they replied. "Do you have that traffic in sight?"

I called negative contact right away and stated that I was climbing to 500 feet. Tower told us we could contact Approach for a PAR back in, or we could hold for special VFR. Noting that we were only five miles from the field, I chose the special VFR entry and circled over our current position, waiting for clearance in the traffic. We briefed special VFR procedures and completed the landing checklist. I made sure the copilot and crew chief were both backing me up on the instruments. The SH-60B ahead of us called the field in sight at three miles, and tower cleared us in behind him. However, at three miles, we still did not have the field in sight. We crept down to 200 feet and at two miles were still without a visual on the field. At about 1 mile, I finally caught sight of the rocky beach line and some runway approach lighting. Once over the runway threshold, we told tower we didn't have the field in sight until we were at less than a mile, and at that time the aircraft behind us canceled it's special VFR entry and requested an approach instead.

Our debrief was lengthy. First, we let the weather put us in a bad situation. We all knew what was heading our way after spending the short amount of time in the rain north of Camp Pendleton. I let the fact that the FCF should have been done quickly cloud my judgement. I should have just canceled the remainder of the flight and let the next day's FCF crew finish the little bit left. Once I was already in a bind, I let myself be lulled into a worse one because I was only five miles out. I should have just taken an approach back in.

Some things we did right, though. We always acted as a crew. My copilot was quick to pull out the "blue brains" to reference the special-VFR course rules. My copilot and crewchief kept me honest on the instruments. We never let the situation get out of hand.

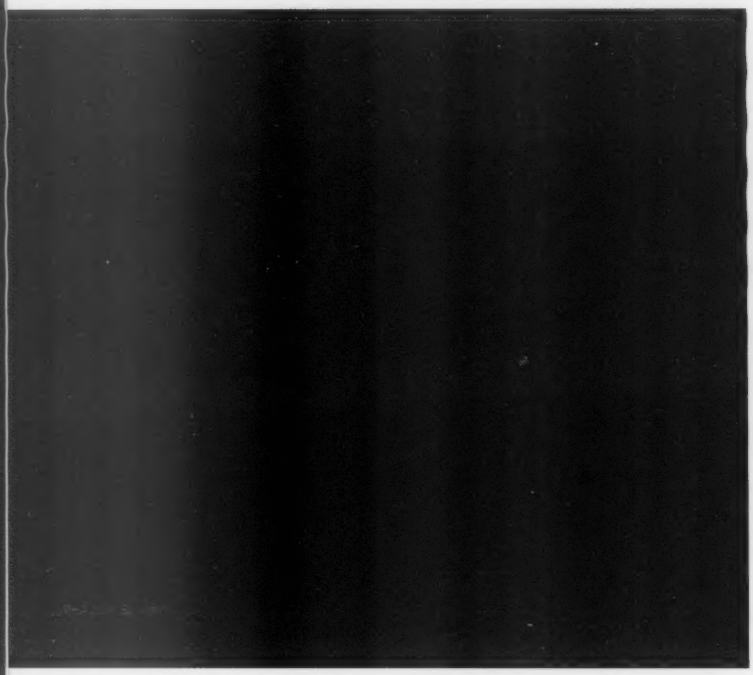
All day I had thought I was paying close attention to the weather, when in fact I was wearing the "mission-completion" blinders. Unfortunately, I didn't realize this until I was safe on deck and back in the ready room.

Lt. Gaines flies with HC-11

OVERDOING *Continued from page 3*

little easier by a good start resulting from a successful ACLS lock-on.

As we taxied to the catapult, we were looking forward to our shot to the beach. After reporting "Five Oh One, airborne" we got the call to take angels 1.2 and turn down wind for one more. We gave our rep a quick call to complain, but it



became apparent the only way to go home was to cry uncle on the radio. The conversation in the cockpit was colorful as we turned in for our third pass. The other aircraft were asked to stay and bag night traps also, so at least we weren't being singled out. We got an ACLS lock-up and started down on our pass, which turned out to be passable. We were aboard, and now we needed gas.

As we were sidelined getting our gas, the scene on the deck and the radios was almost comical. No one wanted to be the first guy to throw in the towel, but no one wanted to keep going. Pressure appeared to be coming from somewhere to keep the pattern full. As a Hornet approached, I watched a herd of what appeared to be distinguished visitors meander by my jet, and heard the following on the radio: "A little power. Power. Power!" Then a pause as the Hornet trapped, followed by, "Nice job, Three Zero Zero. Are you up for another one?" And off he went for one more.

Someone called an S-3 and said, "OK, I need a realistic assessment of the pilot. Is he up for a couple of more?"

"Do you have a number in mind?"

By this time, we were finished fueling and started back up to go again. As we taxied to the catapult, I noticed our scheduled deck time was coming to an end. I figured we'd get one more trap and a shot to the beach. As we turned downwind, I was slaphappy after nine traps so far that day and 35 during the last four days. My focus had started to fade a little as I tried to take in the whole scene. We had no needles this time and a terrible start. We popped out of the clouds well right and high. I got it in the ballpark but over-controlled a settle in close and flattened out over the wires. I heard an "attitude" call and took off some power and set the hook. I felt myself pick up the 4-wire almost immediately and gave a big sigh as I thought, "This night is finally over." Then I realized that I still had the power back. I jammed the throttles up, but the engines barely spooled up before I throttled back per my director's signal.

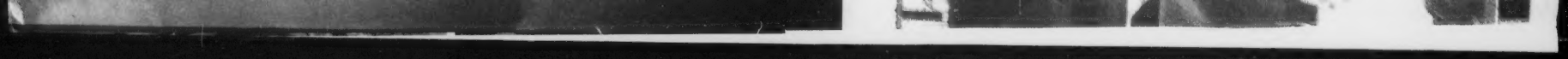
As we taxied out of the wires, I got a call from the LSOs. It wasn't the "Nice no-power-in-the-wires-for-a-cut-pass" that I expected. Instead I heard, "Five Oh One, are you up for some more?"

"I'm done," I said, and they shot us to the beach. I thought I'd gotten away with one but was still mad at my inattention to the task at hand and thankful that I didn't get an unexpected swim call.

As it turned out, I didn't get away with anything. Big brother is always watching, even if he doesn't talk on the radio, and I'm currently the not-so-proud owner of a cut pass.

I think Clint Eastwood said it best: "A man's gotta know his limitations." Don't expect anyone else to let you off the hook. The LSOs knew I had just pulled a boner but still left it up to me to continue or not. I think I made the right call to go home. I heard a few others jump on the bandwagon after me. Unfortunately, it was a little too late for my pride and GPA. Then again, my next pass could have been a ramp strike.

LCdr. Abler flies with VAQ-131



WATERSPOUT *Continued from page 12*

growing darkness. I pondered bribing a linesman to tell us we were on fire during startup to avoid what I was sure was an impending disaster.

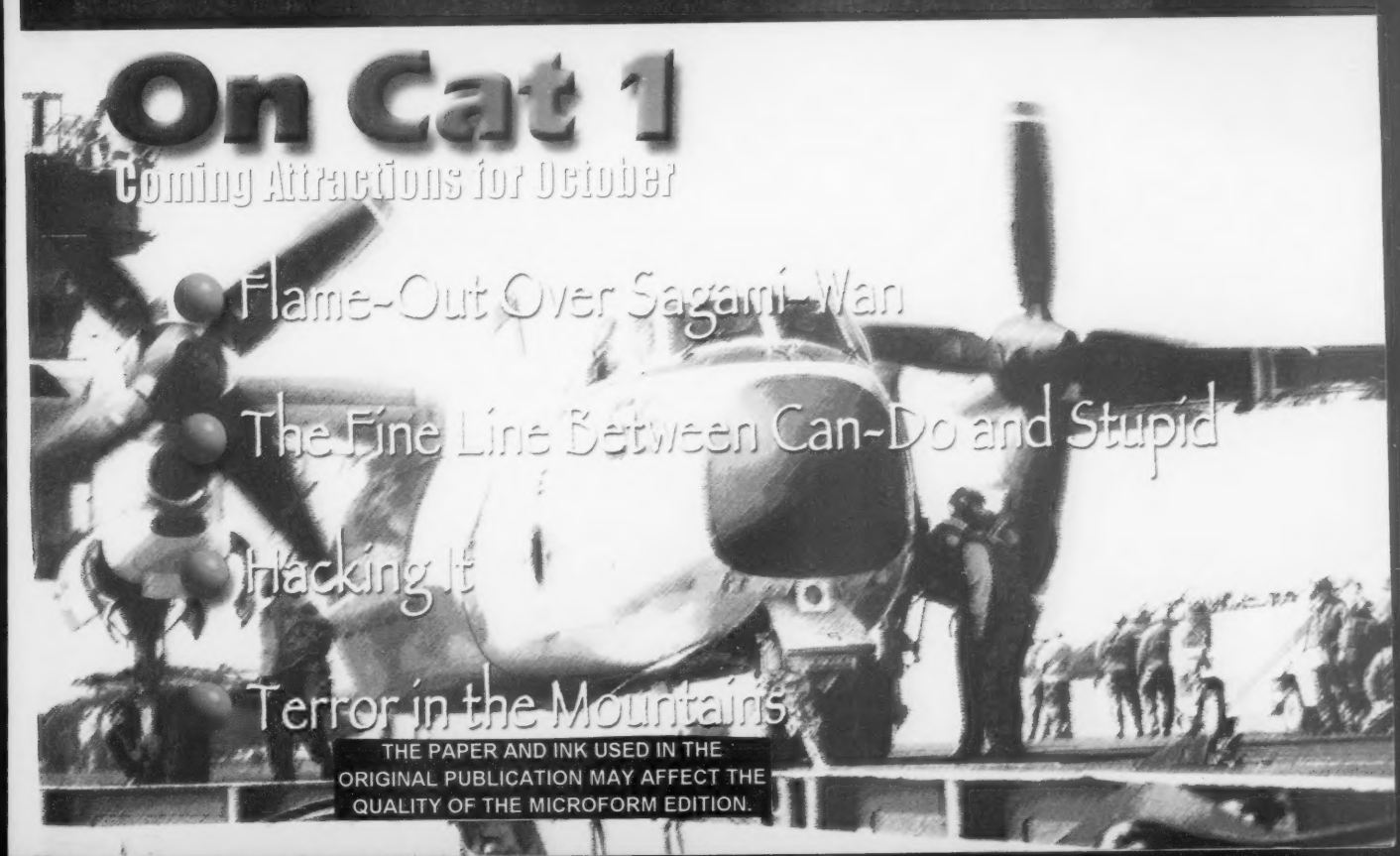
We climbed into the jet and strapped in with no particular rush on my part. As I plugged in my hoses and cables, I flipped on the battery switch and keyed the microphone to get an ICS check (forgetting that I would get no response), but the words never made it out. As I looked up from the left console, my eyes swept over the bay just in time to see a large, black tornado moving steadily toward us. It was actually a waterspout, but I had never seen one before and wasn't too concerned about this distinction. Instead of the standard "ICS check," what came out of my mouth was a few expletives and "That's a tornado!" I quickly selected the appropriate procedures. First, battery switch off. Second, egress. Third, run. My instructor agreed with my impromptu EP—he was in hot pursuit across the tarmac.

We called it a day at that point. The next morning, with his mask fixed, we had an uneventful return to Kingsville. Two days later, an IP approached me with a fuel chit and asked me if I had signed it. My first thought was that we must have been overcharged, and I hadn't caught it. When I told him that I had signed it, he asked if I had looked it over closely, and my fears about owing the government gas money got worse. Upon closer inspection, I saw that the gas we'd gotten in Atlanta was only about 70 pounds shy of a full tank. We'd had only about 10 gallons of gas (not to even mention what is unusable) on shutdown. I shudder to even think what would have happened had we not broken out when we did or if I had gooned up the approach, because there certainly would not have been a second chance.

In retrospect, I would have done a few things differently. I should have insisted that we do fuel-planning prior to leaving Andrews. I should have looked at the fuel chit more closely and pointed out to my IP how bad a situation we had been in. I should have insisted that we abide by regulations and not attempt to fly in a weather watch, with or without myriad other distractions.

It all worked out and I even got a few "aboves" out of the deal. In the end, however, I learned more about the unwritten rules of aviation in those flights than in any others before it.

Lt. Erwin flies with VFA-15



THE PAPER AND INK USED IN THE ORIGINAL PUBLICATION MAY AFFECT THE QUALITY OF THE MICROFORM EDITION.

BROWNSHOES IN ACTION COMIX

"The kind real aviators like"
by Cdr. Ward Carroll

One Day in the P.R. Shop...

Man, carrying this stuff on a hop really makes you think, doesn't it?
About what?
Have you ever considered what might happen if you got bagged, Dangerboy?
I sure have. In fact I'm more than ready for that contingency.
Forget blood chits and pistols. The first thing I'm doing once I hit the ground is passing out these game cards to the local youngsters. Parents will treat me like one of their own once I've won the hearts of their kids.
Frumunda
80 HP
SWEAT SPRAY 60
STENCH POWER 100
And then I'll break my I.T. start-up cap out of my G-suit and wait for the news cameras to roll.
www.DANGERBOY.COM
I'm sorry I asked.
And then I slip the promoters this demo of my theme song...

Note: When we last checked, there was no active website called dangerboy.com. If one appears, it isn't ours. However, you can find the Brownshoes archive on our website at safetycenter.navy.mil/publications/approach